

Progress Report

TRAFFIC SPEED REPORT NO. 83

TO: G. A. Leonards, Director

Joint Highway Research Project

May 11, 1967

File: 8-3-3

FROM: H. L. Michael, Associate Director

Joint Highway Research Project

Project: C-36-100

Attached is a Progress Report entitled "Traffic Speed Report No. 83." This report is another in our continuing series of reporting speed trends. This one is for data collected in August through October 1966. The study and report were performed by Mr. Tamman Nakkash, a Graduate Instructor in Research on our staff.

The findings of the study indicate a continuation of the increasing trend of higher speeds of all types of vehicles on all types of highways. Although the annual trend is small, about one mile per hour, the trend is unmistakable.

The report is presented for information and for the record. Copies will be forwarded to the Eureau of Public Roads for their use with data from other states in developing speed trend data for the nation and for regions. Copies are also ennually furnished the Indiana State Police, the Indiana Office of Traffic Safely and the Indiana Traffic Safety Council. Inc. Approval of such distribution in addition to the normal distribution is requested.

Respectfully submitted.

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Harold L. Michael Associate Director

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Attachment

Copy:		. Ashbaucher		Harvey McLaughlin		Scott Spencer
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	W. H	. Goetz	F. B.	Mendenhall	F. W.	Stubbs
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TRAFFIC SPEED REPORT NO. 83

by

Tamman Nakkash

Graduate Assistant in Research

Joint Highway Research Project

File No: 8-3-3

Project No: C-36-100

Purdue University Lafayette, Indiana May 11, 1967



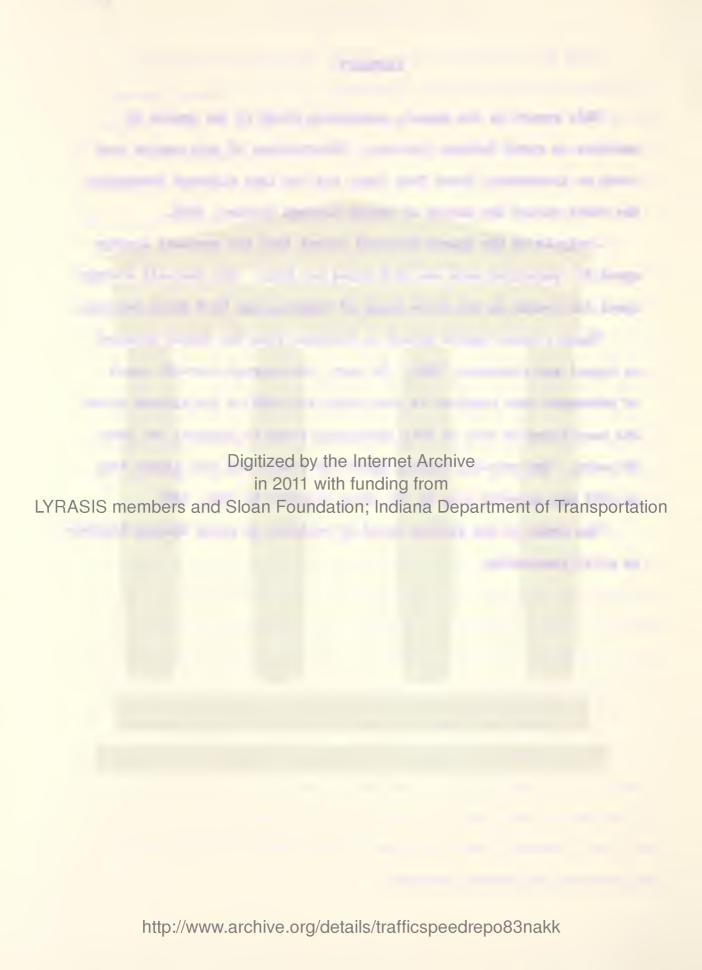
ABSTRACT

This report is the annual, continuing study of the speeds of vehicles on rural Indiana Aighways. Observations of spot-speeds were taken on interstate, other four lane, and two lane highways throughout the state during the months of August through October, 1966.

Aralysis of the speeds recorded showed that the over-all average speed for passenger cars was 62.0 miles per hour. The over-all average speed for trucks on the three types of highways was 53.8 miles per hour.

These average speeds showed an increase from the values measured in August and September, 1965. In fact, the average over-all speed of passenger cars reported in this study for 1966 is the highest which has been found to date in this continuing study in progress for over 20 years. The over-all average speed for trucks was also higher than in 1965 and exceeded only by the value reported in July, 1964.

The trend in the average speed of vehicles on rural Indiana highways is still increasing.



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During August through October, 1966, observations were made to determine free-flow spot-speeds of vehicles on rural Indiana highways. To permit comparison of speeds observed in this study to those observed in previous studies, the same locations on specified Federal and State highways were used, except in one case, where station 4 had to be moved 4.6 miles North relative to its location in the previous studies in order to avoid measuring speeds on a section under construction. The same locations were used so as to minimize variations in the speeds due to different physical features of roadways. The observation stations were on level, tangent sections of rural highways. The observations were made during day light and under favorable weather conditions.

To compare the compliance of motorists with legal speed limits, vehicles were classified as Indiana Passenger cars, non-Indiana Passenger cars, trucks weighing less than 5,000 pounds, and trucks weighing 5,000 pounds or more.

State wide speed limits for rural highways in Indiana, if not otherwise posted, are as follows: 70 miles per hour on interstate highways for passenger cars and trucks weighing less than 5,000 pounds, 65 miles per hour on other highways for passenger cars and trucks weighing less than 5,000 pounds, 55 miles per hour for trucks weighing 5,000 pounds or more on divided highways with a median of 20 feet or more, and 50 miles per hour for trucks weighing 5,000 pounds or more on other highways. All Interstate and four lane highways observed in this study were divided by a median of at least 20 feet. The stated speed limits were applicable on all Interstate, four lane, and two lane highways observed in this study, except for Interstate Route 80 where a speed limit of 60 miles per hour was posted at the section observed.

 It was determined in previous studies that a sample of vehicle speeds from four stations on each type of highway would give a representative sample of traffic speeds. The locations of the stations used for this study were as follows: (see Figure A).

2.	I-80 I-65 I-74 I-65	Interstate Highways 0.7 Miles East of Junction of S. R. 912 1.0 Mile West of Junction of S. R. 334 1.0 Mile East of Junction of Post Road 7.5 Miles North of Junction of S. R. 160
_	11 6 21	Four Lane Highways
	U. S. 31. U. S. 52	1.2 Miles South of Junction of S. R. 38 1.0 Mile East of Junction of S. R. 28
		1.0 Mile North of South Junction of S. R. 2
	U. S. 52	1.0 Mile West of Klondike
O.	0. D. JE	TO MAKE MERG OF WORLTRE
		Two Lane Highways
9.	U. S. bl	1.0 Mile North of Bosvell.
-	U. S. 52	2.0 Miles North of Templeton
	U. S. 31.	3.0 Miles South of Rochester
		0.7 Miles West of Americus
data 0		A O L AMERICA AND A OT A MARKET TO (10)

Sample Size

Computations based on the results of the 1965 speed study indicated that a minimum sample size of 186 speeds of passenger cars would be necessary to be able to determine a 95% confidence interval estimate of the true average speed not greater than two miles per hour. Similarly a 90% confidence interval estimate of the true average mean speed of heavy trucks not greater than four miles per hour required a minimum sample size of 24 speeds. The computation of these sample sizes is included in the Appendix.

Station location was moved 4.6 Miles North relative to previous studies location to avoid a construction area at the time of this study.

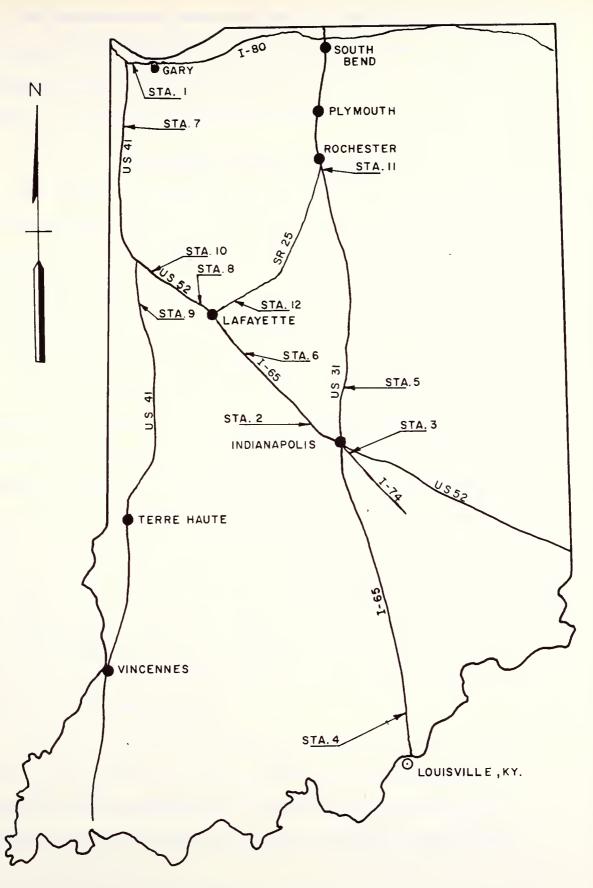


FIG. A - LOCATIONS OF SPEED-STUDY STATIONS



The minimum sample size was based on the variation of the data for all stations from the 1966 speed study. To assure that the desired confidence level would be obtained for each station, more than the minimum sample size required was taken at each site.

Equipment and Field Procedure

The speeds of the vehicles were obtained by the use of an "Electro-Matic" Radar Speed Meter, built by Automatic Signal Division, Eastman
Industries, Inc., East Norwalk, Conn. The meter was placed approximately
four feet from the edge of the pavement at an angle of less than 10 degrees
with the highway centerline. For angles less than 10 degrees, the error
in reading the vehicle speed is negligible.

Prior to beginning the study, a test using a "fifth wheel" was performed to determine the accuracy of the radar meter. The fifth wheel was checked for accuracy a: a five-mile odometer check section and no significant errors were found in the instrument. The radar unit was found to have an error of less than 1/2 mile per hour; consequently, the use of a calibration curve was deemed unnecessary. During the observations at a station, the radar meter was checked periodically with the 60 mile per hour tuning fork to assure the accuracy of the readings.

Each vehicle for which a speed was recorded was free flowing

(the speed of the vehicle should not have been affected by other vehicles

traveling in the same direction).

To avoid influencing the vehicles on the facility, the vehicle which was used in the study was not parked on the roadside at the observation station. The vehicle was parked on a side road in the vicinity of each station with an attempt to conceal it from the view

second by the second

 of the passing vehicles. On the Interstate facilities the vehicle was parked on frontage roads that paralleled the facility, where possible.

The radar unit was placed on a platform in a green cardboard barrel, similar in size and color to the metal barrels used by the Indiana State Highway Department for roadside trash collection. The cable to the speed recording meter was stretched toward the roadside fence. In this manner, the personnel in the study were at least 25 feet from the roadside and created a minimum influence on the passing vehicles.

Results of Analysis

The data collected are summarized for each station in Tables 1 to 12 in the Appendix. Tables 13, 14, and 15 summarize the data for the three types of facilities: Interstate, four lane, and two lane. Table 16 summarizes the data for all facilities observed.

Figures 1 to 12 in the Appendix show the accumulative speed curves for each speed station. The accumulative speed curves for the three types of facilities and for all facilities observed are shown in Figures 13, 14, 15, and 16.

The results of this study and the studies conducted since 1957 are tabulated in Table A and shown graphically in Figure B.

In this study the average speeds for each classification of vehicles and each type of highway were as follows:

	Interstate	Four Lene	Two Lane
Passenger cars			
Indiana	62.1	63.1	60.1
Non-Indiana	6 3 .3	64.3	59.5
85th percentile (all)	68.5	69.0	65.5



TABLE A

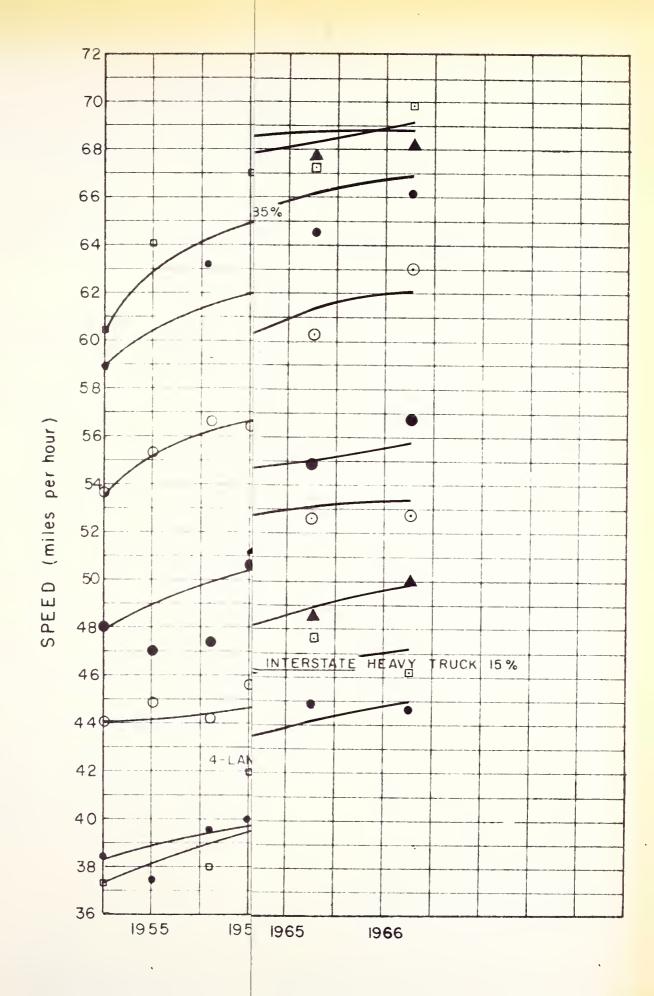
SUMMARY OF SPOT SPEED OBSERVATION ON INDIANA HIGHWAYS

(Free-Moving Vehicles on Level, Tangent Sections)

		Passenger (Cars		de langua de la Companya de la Compa	Trucks	
	Ind.	Non-Ind.	All	All	Light	Heavy	All
	Mean	Mean	Mean	85 %	Mean	Mean	Hean
Two-lane Highway							
Aug. '57	55.5	56.7	5 5. 9	62.1	517	45.8	47.3
Aug. '58	54.3	5 6.3	55.0	61.7	53.0	46.3	47.8
Aug. 159	55.6	55.3	55.9	63.2	li9.7	46.7	48.0
Sept. '60	55.7	55.6	55.6	62.0	53.0	48.1	49.1
Aug. '61	56.2	55.7	55. 9	62.2	50.4	48.9	49.3
Aug. '62 Jun. '63	56.7	57.5	57.0	63.7	53.1	49.3	50.1
	56.9	57.7	57.2	64.0	52.3	47.9	49.7
July '64 Sept. '65	59.1 58.2	60 .1 57.9	59.5 58.1	66.6 64.6	53.9 54.3	51.7	52.4
Sept. '66	60.1	59.5	59.9	65.5	55.4	50.6 50.8	51.7 52.0
Four-lene Highwa		27.	22.2	9707	27.4	20.0)6.00
Aug. '57	57.5	59.9	58.5	64.8	52.0	45.6	47.6
Aug. '58	58.0	59.6	58.7	65.0	54.3	49.0	50.0
Aug. 159	58.4	60.1	59.1	64.5	50.0	53.1	49.5
Sept. '60	59.5	60.2	59.7	65.8	54.8	51.3	52.0
Aug. '61	57.6	57.6	57.6	63.5	53 .6	50.3	51.0.
Aug. 62	59.2	59.3	59.2	65.8	54.7	51.3	51.9
Jun. 163	60.4	60.6	60.5	66.3	55.0	48.6	51.3
July 164	61.4	63.0	62.0	69.4	55.1	54.5	54.7
Sept. '65	60.1	62.2	61.0	67.2	55 • 5	53.1	53.7
Sept. 166	63.1	64.3	63.5	69.0	58.7	52.8	54.2
Interstate Highwa	ays	76.5	-0 -	4			1
Aug. '61	56.7*	56.9	58.2	64.0	55.9	515	52.4
Aug. 162	58.7	59.1	58.8	65.6	55.8	52.7	53.2
Jun. 163 July 164	59.7	61.2 64.0	60.3	66.3	55.2	51.5	52.7
July '64 Sept. '65	61.9 61.2	62.1	62.7 61.5	70.5 67.7	56.8	54.6	55.2
Sept. 166	62.1	63.3	62.5	68.5	54.9 56.1	53.6 54.9	53.9
All Highways	OC 0.L	0,7.5	ر د د د د	00.)	2001	24.07	55.3
Aug. '57	56.2	58.3	56.9	63.2	51.8	46.1	47.4
Aug. '58	55.7	57.9	56.5	63.1	53.4	47.5	48.7
Aug. *59	56.5	58.4	57.4	63.5	50.6	47.8	48.6
Sept. '60	57.3	57.6	57.4	63.7	53.7	49.4	30.0
Aug. 61	56.9	56.7	57.3	63.4	53.1	50.3	51.0
Aug. 162	58.2	58.7	58.4	65.1	54.5	51.2	51.8
Jun. 163	59.0	5 9.9	59.3	65.2	54.1	49.5	51.2
July 164	60.8	62,4	61.5	69.2	55.2	53.7	54,1
Sept. '65	59.9	60.9	60.3	66.7	54.9	52.6	53.1
Sept. '66	61.8	62.4	62.0	68.0	56.7	52.7	53.8

^{*}Includes data for only three of the four stations on Interstate Highways







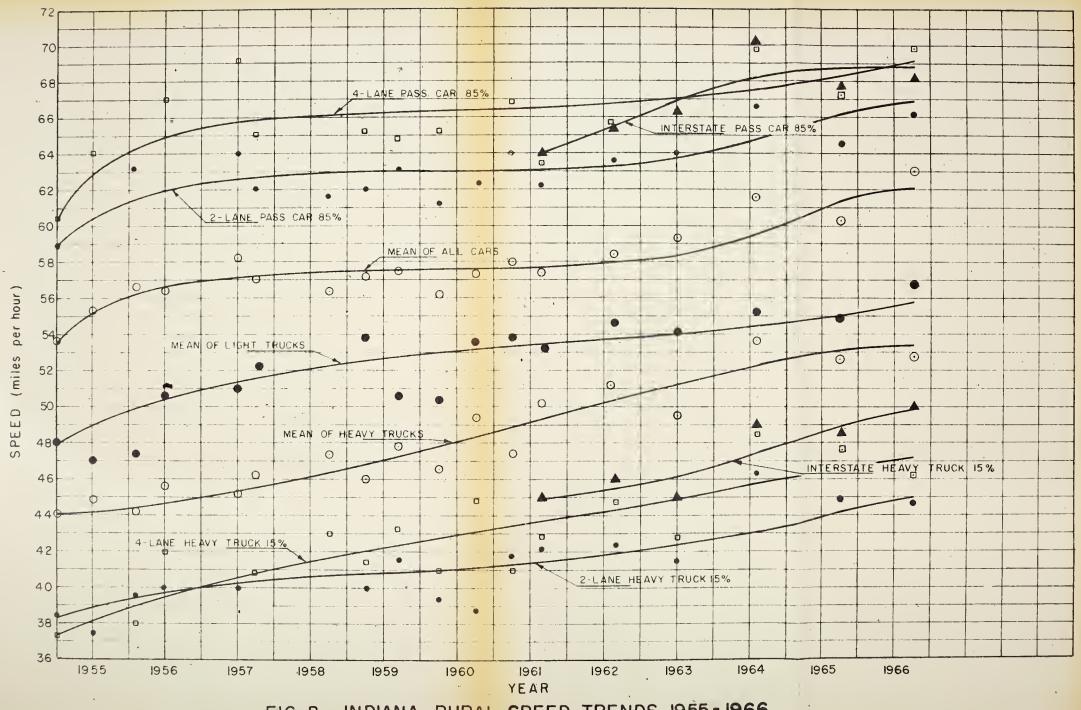


FIG. B - INDIANA RURAL SPEED TRENDS 1955 - 1966



	Interstate	Four Lene	Two Lane
Trucks less than 5,000 lbs. 5,000 lbs. or more	56 .1	58.7	55.4
	54.9	52.8	50.8

The percent of vehicles at the speed limit or greater for each classification of vehicle and each type of highway were as follows:

	Interstate	Four Lane	Two Lane
Passenger cars Indiana Non-Indiana	13.1	43-5	24.5
	18.7	51-3	21.0
Trucks less than 5,000 lbs. 5,000 lbs. or more	1.6	21. 9	13.6
	71.8	43.7	59.0

The percent of vehicles traveling 5 miles per hour or more above the speed limit were as follows:

	Interstate	Four Lane	Two Lane
Passenger cars Indiana	2.2	19.7	8.5
Non-Indiana Trucks	4.3	21.8	7.7
less then 5,000 lbs. 5,000 lbs. or more	0	1.2 11.1	1.2 23.4

All exceeding-the-speed-limit figures shown in this section of the report were based on Stations 2,3 and 4. Station 1 was excluded because the posted speed limit of 60 miles per hour is not representative to rural Interstate conditions.



Summary and Conclusions

The average speeds found in this study were about two (2) miles per hour higher than found in the 1965 study and about one (1) mile per hour higher than those found in 1964. This increase in speed for 1966 when compared to the previous year is better understood if one recalls that the speeds found in 1965 were about one mile per hour lower than those found in 1964, and inconsistent with the general trend of higher speeds in previous years.

Together with the observed trend of higher speeds, it is noted that the speeds for passenger cars on four lane highways were not lower than on Interstate highways. The physical features, shoulders, medians, and access at the observation stations on the four lane facilities were similar to Interstate standards. Similarly, speeds observed at station 1 on I-80, where the posted speed limit was 60 miles per hour were not much lower than speeds observed at other locations on the Interstate system where the speed limit was 70 miles per hour. Drivers, apparently, were more affected by the physical features of the highway for the choice of their speeds than the speed limits.

Recommendations for Future Studies

It is recommended that the observation station on I-80 be moved. The volume on this highway has increased until it is difficult to get free-flowing vehicles. Moreover this spot is rapidly becoming non-representative of rural Interstate conditions. The posted 60 miles per hour will also likely affect future comparisons with other Interstate stations.





Determination of Sample Size

It was desired that a 95% confidence interval estimate of the true mean of the speeds of passenger cars should not be wider than two miles per hour. For trucks weighing 5,000 pounds or more, it was desired that a 90% confidence interval estimate should not be wider than four miles per hour.

It was assumed that the distribution of speeds was normal. Using the standard deviation of the grouped data of the 1965 study, the minimum sample requirements for passenger cars and trucks were determined

where

N = the number of speeds required for the sample

t = tabulated "t" value for r/2 significance, and infinite degress of freedom

s = estimated standard deviation

L = width of the confidence interval

For passenger cars:

For trucks:

or 24 observation of heavy trucks.



TABLE $\frac{1}{}$ SPEED DATA

	,															 1									
	Clear)		pounds more	Present	57	52.3	5.93	0.0	0.0	0.0	3.5	10.5	28.1	56.1	91.2	100.0	-	1	-	1		57	52.3	1	1
	Warm -		5000	Last	82	52.7	4.98	0.0	0.0	0.0	0.0	7.3	26.8	63.4	93.9	100.0	1	1	1	-	-	34	51.1	S ₇	53.8
912		TRUCKS	Less than 000 pounds	Present	27	55.1	7.84	0.0	0.0	0.0	0.0	14.8	22.2	1.04	77.8	88.9	95.6	100.0	1	t 1	1	27	55.1	1	1
S. R. 9	Spe - 1	L	Less 5000		21	50.9	6.14	0.0	0.0	0.0	4.8	14.3	147.6	71.4	30.5	100.0	1	;	1	1	-	12	8.64	6	52.3
East of	Observation (September 10:00 AM		A11	Present	34	53.2	6.69	0.0	0.0	0.0	2.4	11.9	26.2	51.2	86.9	96.4	97.6	100.0	-	-	t b	84	53.2	1	1
Mile	1 0 0		A	Last	103	52.3	5.25	0.0	0.0	0.0	1.0	8.7	31.1	65.1	93.2	0.001	1	-	1	-	1	94	50.7	57	53.6
0.7	Concre		diana	Present	50	6.09	5.16	0.0	0.0	0.0	0.0	0.0	2.0	12.0	32.0	74.0	0.46	100.0	t I	1		50	6.09		1
Location	Cem		Non-Indiana	Last	93	57.4	5.60	0.0	0.0	0.0	0.0	3.2	9.8	25.8	60.2	91.4	98.9	100.0				38	56.5	55	58.1
1	Portlan	CER CARS	ana	Present	189	9.19	6.23	0.0	0.0	0.0	0.0	0.0	5.6	10.0	31.1	68.8	2.46	97.9	98.9	98.9	*99.5	189	9.19	1	
	000:00	PASSENGER	Indiana	Last	124	5.95	7.35	0.0	0.0	0.0	0.0	3.2	20.2	34.7	64.5	89.5	8.96	8.96	2.66	100.0		95	56.0	89	6.95
I-80	Surfacember		All	Present	239	61.4	6.02	0.0	0.0	0.0	0.0	0.0	2.5	10.5	31.4	69.8	94.1	98.3	99.5	99.2	*99.58	239	61.4		-
7.5%	Typeof Septe		A	Last	212	6.95	6.65	0.0	0.0	0.0	0.0	3.2	15.2		62.7	90.3	7.76	98.2	5.66	100.0		46	56.2	123	t-72
Station 1 Highway	of Lanes This Obsert Date Time			OBSERVATION	No. of vehicles obs.	Average speed (m.p.h.		24 m.p.h.	29 m.p.h.	-	39	dei Tei		w w 54 m.p.h.		75	at 69	o 74 mep.h.	79 mepeho	84 m.p.h.	39 m•p•h•	No. of vehicles obs.	Average speed		Average speed
Stat	No.										S	:Je	ŢŲ	91	π	₹					100	un		<u> </u>	nog
																							M		E

* One Car, 9C M.P.H.



SPEED DATA 2 TABLE

Clear)		pounds more	Present	50	57.1	2.95	0.0	0.0	0.0	0.0	0.0	0.0	14.0	80.0	98.0	100.0	1	1	1	1	20	57.2	30	57.1
arm -		5000 p	Last F	68	54.1	4.19	0.0	0.0	0.0	0.0	2.9	8.8	55.9	85.3	100.0	1	!	1	1	•	25	57.1	36	54.6
334 Wher No.	TRUCKS	than	Present	24	56.9	4.92	0.0	0.0	0.0	0.0	0.0	8.3	25.0	2.99	95.8	100.0	1	-1	1 1		14	57.4	10	56.2
of S. R. 334 Weather (Speed Report 3, 1965 3:00 PM	E	Less 5000 r	Last	19	57.5	8.36	0.0	0.0	0.0	0.0	0.0	26.3	31.6	52.6	68.4	100.0	1	1	-	-	6	56.8	10	58.2
Observation (September 1:00 - 3		A11.	Present	74	57.1	3.67	0.0	0.0	0.0	0.0	0.0	2.7	17.6	75.7	97.3	100.0	1 1	!	-		34	57.3	04/	6.95
E te		A	Last	87	54.8	5.51	0.0	0.0	0.0	0.0	2.3	12.6	50.6	78.2	93.1	100.0	1	ŀ	i	-	50	54.8	37	54.9
Previ		liana	Present	105	62.8	5.8	0.0	0.0	0.0	0.0	0.0	1.0	5.7	28.6	61.0	82.9	97.1	100.0	1		57	62.8	48	62.9
Location Cement (Last	PASSEHGER CARS	Non-Indiana	Last	113	63.7	5.72	0.0	0.0	0.0	0.0	6.0	2.7	8.0	13.3	52.2	91.2	98.2	99.1	100.0		444	62.1	69	9.49
rtlan		ana	Present	134	61.8	5.5	0.0	0.0	0.0	0.0	0.0	0.0	8.2	31.1	67.2	91.2	98.5	100.0	1		61	62.6	73	61.1
3,		Indiana	Last	160	63.7	6.27	0.0	0.0	0.0	0.0	0.0	1.2	7.5	22.5	58.1	85.0	96.3	98.8	4.66	100.0	98	64.1	47 L	63.2
I-65 on Surface September 11:00 AM -		All	Present	239	62.2	5.64	0.0	0.0	0.0	0.0	0.0	4.0	7.1	30.1	4.49	6.78	6.76	100.0	-		118	62.7	121	61.8
ray		A	Last	273	63.7	6.03	0.0	0.0	0.0	4.0	4.0	1.8	7.7	18.7	55.7	9.78	97.1	98.9	9.66	100.0	130	63.4	143	63.8
Station 2 Highway I-65 No. of Lanes This Observation Surface Date September Time 11:00 AM -			OBSERVATION	No. of vehicles obs.	Average speed (m.p.h.			29 m.p.h.	37	39	ten 1	67	25.5	J€	70 20	ts	74 m.p.h.		84 m.p.h.		No. of	Average speed	 	Average speed
Staf					•					2	:Je:	o țu	ω.	π	A						ur	Eog F	pu M	nog M



TABLE 3 SPEED DATA

lear		spunod wore	Present	42	55.9	2.81	0.0	0	0 0		0.0	4.8	23.8	6 26	0.001	-	B	1	B B	1	17	55.5	25	56.1
Marmaclear No.		5000 or	Last	78	54.0	4.50	0.0	0.0	0 0	2.6	2.6	11.5	48.7	88.5	100.0		1	1	ì	1	50	54.4	28	53.3
E	TRUCKS	than pounds	Present	17	56.5	6.66	0.0	0.0	0.0	0.0	5.9	11.8	35.3	58.8	94.1	100.0	i d	l 8	1	8	2	55.0	15	56.7
Post R Veat 		Less 5000 r	Last	20	56.9	5.09	0.0	0.0	0	0.0	0.0	10.0	30.0	0.09	95.0	100.0	1	8	1	1	11	55.4	6	58.7
O Mile East of Post Road Veathers S Observation (Speed Repo		411	Present	50	56.0	4.23	0.0	0.0	0	0.0	1.7	6.8	27.1	83.0	98.3	100.0	I b	8	1		19	55.42	04	56.3
1 0 Wil			Last	98	54.6	4.74	0.0	0.0	0	2.0	2.0	11.2	6.44	82.7	00.00	100.0	1	î i			61	9.49	37	9.49
Concr		diana	Present	87	63.1	6.53	0.0	0.0	0.0	0.0	0.0	1.2	6.9	27.6	62.1	83.9	95.4	97.7	100.0	1	50	62.4	37	64.2
Location Id Cement Last		Non-Indiana	Last	103	62.4	6.05	0.0	0.0	0.0	0.0	1.0	2.9	7.11	24.3	63.1	91.3	0.66	100.0	1		35	62.6	68	62.4
ortlar 26 A.M.	ASSENGER CARS	Indiana	Present	155.	61.9	5.81	0.0	0.0	0.0	0.0	9.0	9.0		29.0	70.3	89.7	97.4	100.0		1	69	61.8	98	62.0
74 8 -11:	PASSE	Ind	Last	159	59.2	6.07	0.0	0.0	0.0	0.0	2.5	7.6	20.1	42.8	79, 3	98.7	00.00	1	1		48	0.09	75	58.2
Highway I Observation Surface Date September Time 9:00 A.M.		All	Present	240	9	6.10	0.0	0.0	0.0	0.0	4.0	0.8	7.8	28.5	67.4	87.6	96.7	100.0100.0	1	1	119	62.0	123	62.6
Type Type			Last	292	60.5	6.25	0.0	0.0	0.0	0.0	1.9	5.7	16.8	35.5	72.9	95.8	96.6	100.0	1	1	119	60.8	143	60.2
S t			OBSERVATION	No. of vehicles obs.	rage speed (r	Standard deviation	24 m.p.h.	29 mepohe	50 34 m.p.h.		is the med he	6 7	0 0 0 54 m.p.h.			a 69 m.p.h.	74 m.p.h.		84 m.p.h.	89 m.p.h.	No. of vehicles obs.	Average speed		Average speed
Station No. of	<u> </u>									S	97:) ţų	eν	דני	7					Į	un	Bo	<u> </u>	nog M



TABLE 4 SPEED DATA

	Warm-clear -81)		pounds more	Present	719	54.9	3.9	0.0	0.0	0,0	0.0	2.2	6.5	47.8	89.1	100.0	1	8	1	1		46	54.9	1	1	
	No. Warm		5000 or	Last	8	53.8	5.23	0	0.0	0.0	0.0	6.3	20.8	54.2	82.3	0.66	100.0	1	1	\$	-	84	54.5	84	53.1	
*091	Weather Weather I	TRUCKS	than	Present	21	56.1	7.59	0	0.0	0.0	0.0	4.8	19.0	42.9	66.7	90.5	95.2	100.0	b.		J	21	56.1	1	t	
S. R. 1	Ver (Speed 10, 1	E-4	Less 5000 r	Last	17	54.8	6.62	Q	0.0	0.0	0.0	5.9	23.5	35.3	82.4	94.1	100.0	!	1	1		7	54.3	10	55.1	
North of S	Observation (September 1:30-4:00		A11	Present	67	55.3	5.32	0.0	0.0	0.0	0.0	3.0	10.5	46.3	82.1		98.5	100.0	=	1	1	. 29	55.3	ı	1	tion was
7.5 Miles N	0 0			Last	113	53.9	5.44	0.0	0.0	0.0	0.0	6.2	21.2	51.3	82.3	98.2	100.0	-		-	1	55	7.45	58	53.5	n loca
·	Concre Previ		diana	Present	108	64.9	5.93	0.0	0.0	0.0	0.0	0.0	0.0	1.8	18.5	45.4	77.8	94.4	97.2	100.0	1	108	6,49	_	1	observation location was
Location	Cement		Non-Indiana	Last	122	63.8	44.9	0.0	0.0	0.0	0.0	0.0	1.6	9.0	23.0	52.5	84.4	95.9	99.2	100.0		58	63.9	49	63.7	this ob
	Portland 66 A.M.	GER CARS	Indiana	Present	123	4.59	6.21	0.0	0.0	0.0	0.0	0.0	1.6	6.5	27.6	53.7	79.7	9.7.6	99.5	100.0		123	63.4	•	1	S.R. 160,
I-65	900	PASSENGER	Indi	Last	125	65.1	6.78	0.0	0.0	0.0	0.0	0.0	2.4	7.2	15.2	47.2	0.97	94.4	98.4	100.0	1	29	8.49	58	65.3	of
	Surfa mber A.M.		All	Present	231	64.1	6.11	0.0	0.0	0.0	0.0	0.0	0.9	4.3	23.4		78.8	96.1	98.3	100.0		231	64.1	0	Ĺ	2.9 Miles North
way	Type of rvation e Septe e 8:30		A	Last	248	4.49	6.63	0.0	0.0	0.0	0.0	0.0	2.0	8.1	19.0	49.8	80.2	95.1	98.8	100.0		125	4.49	122	64.5	
tion 4 Highway	of Lanes This			OESERVATION	No. of vehicles obs.	Average speed (m.p.h.	Standard deviation	24 m.p.h.	29 m.p.h.	24 m.p.h.	1	18 me peho	tr to 49 mopoho	m co co me pohe		179	4 69 m.p.h.	o 74 m.p.h.	79 m.p.h.	84 mepehe	89 mepehe	No. of vehicles obs.	Average speed	No. of vehicles obs.	Average speed	Previous location
Station	No.										S	376	ţų	ĐΛ	111	<i>†</i>						un N		pun		

changed to avoid a zone under construction



TABLE 5 SPEED DATA

1 Vindy		pounds more	Present	63	7.		0.0	0.0	0.0	, 1.6	4.8	38.1	74.6	95.2	100.0	1	3	-	ŧ	1	27	52.2	36	50.6
No. Clear Windy		5000 or	Last	82	52.6	5.39	0.0	0.0	0.0	2 11	6.1	24.4	62.2	89.0	100.0	8	1	1	1	1	742	52.7	40	52.5
ther Report	PRUCKS	than	Present	28	59.1	7.40	0.0	0.0	0.0	0.0	3.6	7.1 .	21.4	46.4	75.0	4.96	4.95	100.0			10	58.3	18	59.6
S. R. 38 Weat (Speed R er 7, 19	E-1	Less 5000 r	Last	33	57.7	16·9	0.0	0.0	0.0	0.0	6.1	9.1	30,3	9.09	84.9	93.9	100.0			-	18	4.72	15	57.9
2 Mile South of S.R. ous Observation (Spe Date September 7.1mm 1:00-3:00 P.		A11	Present	91	53.7	6.82	0.0	0.0	0.0	1.1	4.4	28.6	58.2	80.2	32.3	98.9	98.9	100.0	1	1	37	53.8	54	53.6
2 Mile 9		A	Last	115	54.0	6.29	0.0	0.0	0.0		6.1	20.0	53.0	80.9	95.7	98.3	0.001	-	1	1	09	54.1	55	54.0
rete Previ		diana	Present	35	63.9	7.72	0.0	0.0	0.0	0.0	0.0	5.7	14.3	28.6	42.9	77.1	97.1	100.0	-		18	65.1	17	62.5
te of		Non-Indiana	Last	68	61.9	5.37	0.0	0.0	0.0	0.0	0.0	0.0	10.3	35.9	69.2	92.3	100.0	1		1	17	0.09	12	63.4
Asphaltic	IGER CARS	Indiana	Present	225	62.8	7.48	0.0	0.0	0.0	0.9	1.8	4.9	10.7	28.9	57.8	80.9	95.6	98.7	100.0	1	115	65.9	110	62.7
31 1966 1966	PASSENGER	Indi	Last	206	60.7	7.31	0.0	0.0	0.0	0.0	2.4	7.3	18.5	38.8	4.69	88.8	98.5	100.00	:	1	103	58.4	103	63.0
Highway U.S. Observation Date October 4, Time 12:30-3:30		All	Present	560	65.9	7.51	0.0	0.0	0.0	0.8	1.54	5.0	11.2	28.9	55.8	80.4	95.8	98.9	100.0	1	133	63.2	127	62.7
way TWE of e 00 e 12		P	Last	245	6.09	7.04	0.0	0.0	0.0	0.0	2.0	6.1	17.1	38.4	4.69	4.68	98.8	100.0	1	1	120	58.7	125	63.1
Lanes $\frac{h}{\ln is}$			OBSERVATION	No. of vehicles obs.	Average speed (m.p.h.	Standard deviation	24 m.p.h.	29 m.p.h.			Ter me poho	14 to mopoho	6 6 54 m.p.h.	of 7 59 m.p.h.	то от терен	4 69 m.p.h.	74 m.p.h.	79 m.p.h.	84 m.p.h.	39 m.p.h.	No. of vehicles obs.	Average speed	No. of vehicles obs.	Average speed
Station No. of										S	3Ţe	ŢŲ	ΘΛ	ΙŢ	ī					100	un		pun	\neg



TABLE 6 SPEED DATA

6 Highway	खर	U.S	. 52		Location	1 6	e le	East of S.	4		weel James	Joan
w	Type of Aug	Observation Surface Date August 31, 19 Time 10:00 AM -	ce 1966 - 12:15	W W	Aspiratore Last	Previ	0 00	Observation August 2 9:30 - 1	(Speed R 20, 1965 11:45 AM	ther	No. 81	
			PASSENGER	GER CARS					H	TRUCKS		÷
	A	LIA	Indiana	ana	Non-Indiana	diana	-4	All	Less 5000 r	than	5000 or	pounds more
OESERVATION	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present	Last	Present
of vehicles obs.	216	241	106	142	110	66	77	80	30	17	24	63
speed (m.p.h.	61.2	65.0	60.3	65.0	62.0	65.03	55.0	54.2	55.2	58.6	54.8	53.0
deviation	6.40	6.35	6.63	6.75	6.00	5.75	5.30	6.64	5.69	6.03	5.09	6.32
m.p.h.	0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
m.poh.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
m.p.h.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
m.p.h.	0.5	0.0	0.0	0.0	0.9	0.0	0.0	0.0	0.0	0.0	0.0	8.4
m.p.h.	2.3	0.4	2.8	0.7	1.8	0.0	2.6	10.0	3.3	5.9	2.1	11.1
mop.ho	3.7	0.8	7.4	2.4	2.7	0.0	16.9	13.3	16.7	5.9	17.0	22.2
m.p.h.	14.8	5.8	19.8	7.8	10.0	3.0	40.74	43.5	50.0	17.7	48.9	57.1
m.p.h.	31.9	15.8	34.9	75.5	29.1	16.2	4.48	78.3	80.0	52.9	87.2	85.7
m.p.h.	73.2	45.2	76.4	43.0	70.0	148.5	93.5	96.3	93.3	82.1	93.6	100.0
69 m.p.h.	91.7	75.8	92.5	7	90.0	77.8	100.0	100.0	100.0	100.	100.0	•
	99.1	94.2	99.1	93.0	1.66	0.96	1	1	1	1		1
79 m.p.h.	99.5	93.8	1.66	9.1.6	100.0	0.66		i i	1	1	1	1
	0.001	100.0	100.0	100.0	L 1	100.0	1	1	1	1	-	•
m.p.h.	1	1		1	1	1	1	1	1	1	1	1
vehicles obs.	105	241	748	142	- 52	66	41	30	15	17	56	63
speed	62.8	65.0	61.4	65.0	64.0	65.0	56.2	54.2	56.0	58.6	56.4	53.0
vehicles obs.	111	;	58	e L	, 53	-	36	1	15		.21	1
speed	9.69	1	4.65	l I	59.8	1	53.5	1	7.45	-	52.9	1



TABLE ___ SPEED DATA

	Clear 81)		00 pounds	Present	109 99	0 52.5	5.91	0.0	0.0	0.0	5.0	10.1	25.3	54.6	92.9	100.0	0	3	-	0		66 6	4 52.5		
S. R. 2	o _N		5000 or	Last	٦	53.0	7.90	0	0.0	0	0.0	5.5	111	65.1	8.8	<u>87</u> 3	100.0	1	-		t	69	51.4	오	55.7
of	Weather (Speed Report Per 9, 1965 - 12:15 P.M.	TRUCKS	s than pounds	Present	, [2	57.9	5.29	0.0	0 0	0.0	0.0	0.0	0.0	28.6	66.7	81.0	100.0	:	-	E E	0	21	57.9	1	1 5
North	(Speed Ner		Less 5000 r	Last	12	53.3	6.79	0.0	0	0	0.0	8.3	25.0	66.7	75.0	100.0		;	;		9	m	52.7	6	53.6
Mile No	tion ptemb A.M.		All	Present	120	53.4	6.14	0.0	0.0	0.0	4.2	8.3	20.8	50.0	88.3	26.7	100		-	1	I E	120	53.4	1	8
J.O. M			A	Last	121	53.0	5.09	0.0	0	0.0	0.0	5.8	21.5	65.3	89.3	97.5	100.0	-	1	1	-	72	51.5	64	55.3
	Cement Last Previous Date		diana	Present	112	63.9	6.59	0.0	0.0	0.0	0.0	0.0	3.6	4.5	17.9	51.8	80.4	4.8	98.2	0.001		112	63.9	I I	1
Location			Non-Indiana	Last	120	65.9	6.28	0.0	0.0	0.0	0.0	0.8	3.3	8.3	23.3	60.0	88.3	97.5	99.5	100.0	1	43	64.2	177,	62.1
Ĭ.	Portland	GER CARS	ana	Present	115	61.9	7.11	0.0	0.0	0.0	0.0	0.0	1.7	13.9	33.9	68.7	4.48	94.8	98.3	100.0	1	1.15	61.9	1	
41	2 7. 7. P.M.	PASSENGER	Indiana	Last	119	60.09	6.34	0.0	0.0	0.0	0.0	1.7	5.9	21.0	41.2	75.6	94.1	0.001		1	1	65	59.3	54	6.09
U.S.	ion Surface September 12:30- 2:30		All	Present	227	65.9	6.91	0.0	0.0	0.0	0.0	4.0	2.6	9.5	26.0	4.09	82.4	95.6	98.2	0.001	1	227	65.9	1	•
ray	Type Se			Last	239	61.4	94.9	0.0	0.0	0.0	0.0	1.3	7.6	14.6	30.0	67.8	91.2	98.7	9.66	100.0	-	108	61.2	131	61.6
tion 7 Highway	of Lanes this			OBSERVATION	No. of vehicles obs.	rage speed (I	Standard deviation	24 m.p.h.	29 m.p.h.		<u> </u>	ne	45 47	m.p.h.	59 m.p.h.	o 64 mep.h.	t e	774	79 m.p.h.	84 m.p.h.	39 т.р.h.	No. of	Average speed	No. of	Average speed
Station	No.										5	Je:	o ir	[9V	II	A					1	un	Bor	pu	Mod



TABLE 8 SPEED DATA

	Warm Clear		pounds	Present	45	55.2	5, 30	0.0	0.0	0 0			12.2		75 6		100.0	ı		£	1	1,5	55.2		
	1		5000	Tast	52	52.4	4.45	0 0	0.0	0			28.9		oh 2	0		8		-		25	51.6	27	53.1
dike	ather Report N ', 1965 P.M.	TRUCKS	than	Present	16	59.3	6.64	0.0	0.0	0.0	0.0	6.3		18.8	43.8	75.0				1	-	16	59.3	1	
of Klor	Veat Speed Rer 17,	<u></u>	Less 5000 r	Last	25	54.1	7.41	0.0	0.0	0.0	0.0	8	36.0	48.0	72.0	0 00	d		i i		1	14	52.1	11	9.95
Wile West of Klondike	Observation (Speed Report No. September 17, 1965 2:30 5:00 P.M.		ALI	Present	61	56.3	5.91	0.0	0.0	0.0	0.0	4.9	11.5	29.5	67.2	01.8	100		8		1	61	56.3	8	t I
O. M.				Last	77	52.9	5.59	0.0	0.0	0.0	0.0	5.2	31.2	55.8	87.0	97. h	100.0		l I	j. t		39	51.8	-0.1	54.1
7	Concr Previ		diana	Present	93	64.0	5.94	0.0	0.0	0.0	0.0	0.0	0.0	6.5	19.4	47.3	76.3	97.9	1 4	100	-	93	64.0	t I	\$
Location	Cement Last		Non-Indiana	Last	113	61.9	5.65	0.0	0.0	0.0	0.0	0.9	1.8	ω,	29.2	65.5	91.2	99.1	100.0	•)	09	61.4	53	62.6
	Portland 1966 P.M.	ASSENGER CARS	Indiana	Present	157	62.8	7.10	0.0	0.0	0.0	0.0	2.4	5.1	8,0	24.2	58.0	80.3	2,96	98.7	100.0	-	157	62.8	t 2	1 3
52	5:00	PASSE	Ind	Last	170	59.4	6.44	0.0	0.0	0.0	9.0	1.2	7.1	22.4	48.2	77.1	94.7	100.0	1	1	1	81	58.1	89	60.7
U.S.	on Surfac August 2:45 -		All	Present	250	63.3	6.70	0.0	0.0	0.0	0.0	1.6	3.2	8.0	22.4	54.0	78.8	96.8	98.8	100.0		250	63.3	and all a	-
way	Type e e			Last	283	60.4	6.25	0.0	0.0	0.0	0.4	1.1	5.0	17.0	9.04	72.4 54.0	93.3	99.7 96.8	0.00	1	1	141	59.5	14.2	61.4
Station 8 Highway	of Lanes his Observation Surface Date August S Time 2:45			OBSERVATION	No. of Vehicles obs.	Average speed (m.p.h.	Standard deviation	24 m.p.h.	29 mepohe	34 mep.h.		ave de me peho		о е 54 m.p.h.			the de mep.h.	o 74 m.p.h.	79 mepeho	84 mepehe	89 m.p.h.	No. of vehicles obs.	Average speed	No. of vehicles obs.	Average speed
Stat	No.										Se	cJ,	ţų	-ν.	ΓĽV						1	und	BC	pur	Bor



TABLE 9 SPEED DATA

clear ()		pounds	Present	72	47.9	5.09	0.0	0.0	1.4		20.8	62.5	93.1	98.6	100.0	1	1 1	1	2 3	ı	72	47.9	-	2 3
warm-Clear No. 81		5000 or	Last	102	49.1	5.64	0.0	0.0	1.0	2.9	17.7	56.9	80.4	7.96 1.96	100.0	1	l t	å 1	1	1	09	148.7	745	49.7
Bos ther peport 265	FRUCKS	than	Present	23	51.7	7.49	0.0	0.0	0.0	4.4	26.1	34.8	6.09	91.3	91.3	100.0	1		1	i	23	51.7	1	1
North of West of Speed F 16, 19	E	Less 5000 r	Last	29	54.8	7.67	0.0	0.0	0.0	0.0	6.9	27.6	48.3	62.1	8.7	100.0		1	1	-	19	56.4	10	51.6
vation		All	Present	95	148.8	5.93	0.0	0.0	1.1	4.2	22.1	55.8	85.3	8.96	97.9	100.0	1		1	9	95	48.8	-	
ിയി നെത		A	Last	131	50.4	6.55	0.0	0.0	0.8	2.2	15.3	50.4	73.3	88.6	7.76	100.0	l l	1 1	1	1	42	50.6	52	50.1
Conc		liana	Present	110	59.3	7.45	0.0	0.0	0.0	0.0	1.8	10.9	30.0	47.3	77.3	90.0	98.2	100.0	:		110	59.3	I I	i 3
Location nd Cement Last i		Non-Indiana	Last	107	56.8	6.81	0.0	0.0	0.0	0.0	5.6	14.0	35.5	64.5	7.06	97.2	100.0	-	-	i.	64	56.7	58	56.8
Portla 66 P.M.	GER CARS	ana	Present	115	58.3	7.02	0.0	0.0	0.0	0.0	5.6	11.3	30.4	48.7	82.6	96.5	99.1	100.0	1		115	58.3	-	
30	PASSENGER	Indiana	Last	86	58.0	7.74	0.0	0.0	0.0	1.0	2.0	12.2	31.6	59.2	78.6	92.9	98.0	100.0		1	52	59.3	94	56.6
U.S. 4 Logf Sturface August 10:15 A.M.		ALL-	Present	225	58.8	7.23	0.0	0.0	0.0	0.0	2.2	11.1	30.2	148.0	80.0	93.3	98.7	100.0	-	1 1	225	58.8	1	-
ray Typeon		Ā	Last	205	57.4	7.28	0.0	0.0	0.0	0.5	3.9	13.2		62.0	84.9	95.1	99.0	100.0		1	101	58.1	104	56.7
of Lanes 2 This Observation August The 10:15 A.M.			OBSERVATION	No. of vehicles obs.	. ~		24 m.p.h.	29 m.p.h.		39	ue.	47	545	J.	10	5 th 69 mep.h.	7/2		84 m.p.h.	89 m.p.h.	No. of vehicles obs.	Average speed	No. of vehicles obs.	Average speed
Station No. of					1		1			2	ger	o ţų	(eV	π	A					1	ur	Bor		nog



TABLE 10 SPEED DATA

Warm-Cloudy 81)		pounds	Present	43	50.5	5,38	0.0	0.0	0.0	0.0	14.0	44.2	79.1	95.4	97.7	100.0	8 8	1	3 8	-	43	50.5		-
ton Warm- No. 81		5000 or	Last	148	51.8	4.59	0.0	0.0	0.0	0.0	6.3	29.2	70.8	93.8	100.0			1	1	3	27	53.2	21	49.9
Temple	PRUCKS	than pounds	Present	13	55.7	4.59	0.0	0.0	0.0	0.0	0.0	7.7	30.8	76.9	100.0		•	-	-		13	55.7	ł t	1
North of Vea n (Speed 1 19, 1965 11:15 P.M.		Less 5000 r	Last	20	50.8	5.97	0.0	0.0	0.5	5.0	20.0	40.0	65.0	100.0	9	1	I I	3	1		12	50.2	8	51.8
Observation August 19 9:30 - 11		All	Present	56	51.7	5.63	0.0	0.0	0.0	0.0	10.7	35.7	67.9	91.1	98.2	100.0	1	1	ł	- 1	56	51.7	1	1
2.0 us Obs		H	Last	68	51.5	5.01	0.0	0.0	0.0	1.5	10.3	32.4	69.1	95.6	100.0	1	1		1		39	52.3	29	50.4
Concret		diana	Present	135	58.6	5.25	0.0	0.0	0.0	0.0	0.7	2.2	20.7	55.6	86.7	97.0	100.0		1		135	58.6	t I	1
Location phaltic (Last		Non-Indiana	Last	122	58.9	5.14	0.0	0.0	0.0	0.0	0.0	1.6	18.9	56.6	83.6	97.5	100.0		1	1	49	4.65	58	58.5
10 P.	GER CARS	Indiana	Present	26	58.7	5.55	0.0	0.0	0.0	0.0	0.0	3.1	22.7	49.5	84.5	97.9	100.0	-	1	1	97	58.7	1	1
ace	PASSENGER	Indi	Last	68	58.5	4.59	0.0	0.0	0.0	0.0	0.0	3.2	19.1	61.9	90.5	98.4	100.0	1	1	1	59	58.2	39	58.7
Highway U.S. Observation Surface Date August 29, Time 9:30 A.M.		רוא	Present	232	58.7	5.37	0.0	0.0	0.0	0.0	ф.°О	2.6	21.6	53.0	85.8	97.4	100.0	;			232	58.7	-	-
way Type c ee		A	Last	190	58.8	4.95	0.0	0.0	0.0	0.0	0.0	2.2	18.9	58.4	86.0	97.8	100.0	;	1	2	93	59.1	97	58.6
of Lanes This			ORSERVATION	No. of vehicles obs.	Average speed (m.p.h.	Standard deviation	24 m.p.h.	29 m.p.h.	34 m.p.h.	1	avenue m.p.h.	7 :	e e e 54 m.p.h.	ŢJ		f at 69 m.p.h.	o 74 m.p.h.	79 mep.ho	84 m.p.h.	39 m.p.h.	No. of vehicles obs.	Average speed	No. of vehicles obs.	Average speed
Stat										S	сте	ţŲ€	•v .	ΓĮ				,		E	umo	1	pun	Roz



TABLE 11 SPEED DATA

* One Car 91 M.P.H.



TABLE 12 SPEED DATA

0.0 0.0 100.0 5.1 0.0 2.1 10.4 77.1 95.8 2 35.4 51.1 ! 1 1 1 Present Clear pounds or more ı 5000 51.1 5.57 Warm 36 0.0 0.0 0.0 91.0 53.7 0.0 13.9 33.3 75.0 50.0 Last 25 100.0 1 1 No 57.4 7.02 Present 0.0 0.0 62.5 75.0 0.0 0.0 0.0 12.5 37.5 100.0 Last Previous Observation (Speed Report September 2, 1965 5000 pounds 1 1 1 i 1 Less than PRUCKS Weather 0.7 Mile West of Americus 13 54.7 Last 6.71 52.1 M 58 100.0 0.0 0.0 0.0 0.0 3.6 28.6 89.3 60.7 1 1 82.1 00:4 -6.25 52.7 64 52.7 Present 1.6 67.2 0.0 0.0 7.8 87.5 100.0 0.0 29.7 93.8 1 Į į 1 1:00 All 54.3 52.3 6.1 0.0 0.0 0.0 4.6 68.8 87.5 100.0 50.8 24 31.3 95.3 Last 0.0 9 179 Date Time 1 1 58.2 6.55 27 27 Present 58.2 0.0 0.0 0.0 0.0 22.2 95.6 3.7 11.1 7.04 100.0 Asphaltic Concrete Non-Indiana 1 1 1 ŀ Location 6.60 56.7 26 8.09 0.0 0.0 0.0 96.2 0.0 0.0 30.8 61.5 9 Last 7.7 80.8 100.0 CARS 186 Present 99.9 0.0 0.0 0.0 0.0 2.7 27.4 6.76 186 80.1 100.0 1 1 1 PASSENGER Indiana - 2:00 PM 190 56.9 58.4 Last 6.75 0.0 0.0 0.0 5.3 12.6 35.3 64.2 86.3 4.76 99.5 100.0 123 0.0 56.1 67 25 H. This Observation Surface September 1, 11:00 AM 213 58.6 6.63 Present 100.0 υ Ω 0.0 0.0 0.0 0.0 2.8 8.0 26.8 8.64 58.6 81.7 98.1 213 1 AL 6.72 100.0 56.2 216 14d 76 58.7 0.0 0.0 0.0 0.0 4.6 12.0 99.5 Last 63.9 85.7 34.7 Highway Date Time Average speed (m.p.h. obs. obs. obs. Standard deviation vehicles vehicles vehicles m.p.h. m.p.h. m.p.h. **OESERVATION** m.p.h. 29 m.poh. m.p.h. mop.h. m.poh. m.p.h. m.p.h. m.p.h. m.p.h. m.p.h. m. D.h. Average speed Average speed 75 472 20 No. of Lanes ₹ 80 Jo Of Of 3£ JO than Ţesa No. No No. Station traveling % of vehicles All vehicles punog



TABLE 13 SPEED DATA

6.45 3.66 4.59 10.8 36.4 88.2 100.0 195 0.0 0.0 0.0 1.0 9.4 Present 1 ł 1 1 1 1 1 ŀ 5000 pounds or more 53.6 7.80 17.6 55.6 324 87.4 7.66 9.0 100.0 0.0 0.0 0.0 6.4 Last í 1 ŀ 1 1 1 1 1 Last Previous Observation (Speed Report No. 9.96 56.1 6.7936.0 68.5 92.1 100.0 Present 89 15.7 0.0 0.0 0.0 0.0 6.7 5000 pounds Less than 1 i 1 1 1 PRUCKS 27.3 100.0 7.02 71.4 9.68 See Individual Stations 54.9 0.0 Last 0.0 0.0 1.3 5.2 1 1 1 1 1 1 1 98.9 284 5.40 12.3 82.0 97.2 55.3 Present 36.3 100.0 9.4 0.0 0.0 0.0 0.7 1 1 1 1 1 1 A 53.1 19.5 84.3 97.8 53.9 401 5.31 100.0 Last 0.0 0.0 0.0 5.0 ω. Ω ı I I 1 1 1 I 1 Date 90.9 58.3 350 63.3 83.1 100.0 Present 25.7 96.3 98.6 0.0 0.0 0.0 0.0 0.0 0.0 5.7 Non-Indiana 1 I 1 1 1 Location 94.9 13.0 63.3 91.0 98.1 431 62.1 28.8 99.5 100.0 Last 0.0 0.0 0.0 1.2 3.7 I L 1 1 PASSENGER CARS 5.99 30.0 97.8 Present 62.1 89.5 601 99.5 7.66 99.8 0.0 0.0 0.0 0.0 0.2 1.3 8.5 1 Indiana 61.2 68.5 8.66 7.35 16.9 35.7 4.68 97.0 99.1 100.0 Last 568 0.0 0.0 0.0 0.0 1.4 4.7 Interstate ı 1 1 ì This Observation Surface 87.2 99.2 62.5 6.04 28.4 63.0 97.3 8.66 Present 951 6.66* 0.0 0.0 0.0 0.0 1.2 0.1 7.5 1 1 F 666 61.5 6.99 15.2 66.3 97.5 99.3 32.7 90.1 6.66 0.001 Last 0.0 0.0 5.8 0.0 0.1 ! 1 1 ! Highway Date Time Average speed (m.p.h. •sqo ·sqo No. of vehicles obs. Standard deviation Station 1, 2, 3, 4 of vehicles No. of vehicles 24 m.p.h. 29 m.poh. OBSERVATION 34 m.p.h. m.p.h. m.p.h. m.p.h. m.p.h. mop.h. m.p.h. m.p.h. 69 m.p.h. m.p.h. 84 m.p.h. 89 m.p.h. Average speed Average speed No. of Lanes 39 67 77 7 62 35 Ţesa 20 rpy No traveling % of vehicles All vehicles Boun pumog

* One Car 90 M.P.H.



TABLE 14 SPEED DATA

52.8 56.3 88.9 9.66 100.0 5.81 0.0 0.0 0.0 3,3 Present 5000 pounds or more 290 0.0 0.0 22.8 90.3 53.1 5.04 0.4 60.7 97.9 100.0 Last 1 No. 52.4 22.0 78.1 98.8 98.8 100.0 Present 82 58.7 Meather Last Previous Observation (Speed Report 6.39 0.0 0.0 0.0 0.0 4.9 3.7 Less than 5000 pounds 1 1 PRUCKS 1 100.0 100 45.0 71.0 20.02 91.0 98.0 See Individual Stations 55.5 6.79 Last 0.0 0.0 0.0 0.0 1 1 1 1 18.3 100.0 80.4 94.6 Present 352 6.45 20.7 7.66 7.66 0.0 0.0 0.0 9.0 7.1 l 1 4 96.2 99.5 100.0 390 85.4 53.7 5.64 56.7 22.1 Last 0.0 0.0 0.0 0.5 5.1 1 1 1 Date 18.9 78.2 Last Present 339 64.3 6.30 148.7 96.8 98.8 100.0 0.0 0.0 8. 5.6 0.0 0.0 0.3 Non-Indiana 1 1 Location 100.0 28.0 382 62.2 65.5 90.3 98.7 5.95 7.66 0.0 0.0 2.4 0.0 0.3 9.2 1 PASSENGER CARS 80.3 95.0 100.0 Present 63.1 7.23 10.2 25.7 56.5 98.6 1.4 3.6 0.0 0.0 0.0 639 0.3 1 1 Indiana 8.66 41.3 20.3 74.0 92.2 99.3 Last 60.1 100.0 6.77 0.0 0.0 0.0 0.2 0.0 6.5 50 I 1 This Observation Surface 4 Lane 92.6 Present 53.8 9.6 100.0 46.9 23.3 98.7 0.0 0.0 0.0 0.1 3.0 8.6 0.0 1 1 F 8.66 0.0 0.0 0.001 Last 61.0 0.2 1.6 4.9 16.0 91.5 6.54 36.1 7.07 99.1 0.0 1 1 1 ŀ 1 Station 5, 6, 7, 8 Highway Date Time Average speed (m.p.h. obs. obs. No. of vehicles obs. Standard deviation No. of vehicles of vehicles m.p.h. 24 m.p.h. OBSERVATION m.poh. mo,poho m.p.h. Average speed speed No. of Lanes 64 8 8 Average Jess 75 rpy JO No. traveling % of vehicles punog All vehicles Boun



TABLE 15 SPEED DATA

222 50.8 5.93 0.0 0.0 0.5 100.0 13.5 41.0 76.6 92.3 97.3 Present 5000 pounds 1 or more 250 50.6 0.0 4.0 1.2 12.0 5.31 7,0.0 74.8 92.6 100.0 Last I 1 1 1 1 1 S. 7.53 81 21.0 7.04 72.8 86.4 98.8 98.8 100.0 Present Less than 5000 pounds Last Previous Observation (Speed Report 0.0 0.0 0.0 1.2 6.6 1 1 PRUCKS 1 51.8 100.0 7.7626.8 6.51 90.2 97.3 99.1 54.3 0.0 See Individual Stations Last 112 0.0 0.0 ر ش 8.0 1 ı 1 1 1 52.0 6.70 Present 303 12.5 35.6 67.0 87.1 4.46 99.7 7.66 100.0 0.0 0.0 0.3 7.7 l 1 ŀ 1 1 A11 35.9 89.5 0.79 99.2 100.0 51.7 11.1 67.7 7.66 6.39 0.0 Last 362 0.0 9.0 7.4 1 I 1 1 ı Date Time 323 59.5 6.94 8.76 92.3 100.0 Present 22.6 46.8 79.0 0.0 0.0 0.3 9.0 1.9 6.5 1 Non-Indiana 1 1 Location 336 6.75 6.40 4.96 29.5 60.1 86.0 7.66 7.66 100.0 Last 0.0 0.0 0.0 0.0 2.7 8 l 1 PASSENGER CARS 7.22 60.1 100.0 Present 42.5 75.5 91.5 7.79 0.66 8.66 0.0 0.0 0.0 0.0 7.6 4.9 1 1 Indiana 8.66* 98.9 9.66 8.66 27.7 57.6 82.5 94.5 Last 536 58.2 7.10 0.0 0.0 0.0 3.6 4.0 11.1 1 1 2 Lanes This Observation Surface 7.12 59.9 899 97.8 Present 44.1 91.8 21.8 76.8 99.3 6.66 100.0 0.0 0.0 0.1 0.2 6.5 1.7 1 ì ALL 872 6.83 58.6 99.2 58.1 28.3 83.9 95.3 99.9 6.664 Last 99.7 0.0 0.0 0.0 0.2 3.2 6.6 1 ì 1 Highway Date Time Average speed (m.p.h. obs. No. of vehicles obs. obs. Standard deviation 9,10,11,12 No. of vehicles of vehicles mop.h. m.p.h. 24 m.p.h. m.p.h. ORSERVATION 29 m.p.h. m.p.h. m.p.h. 74 m.p.h. m.p.h. m.p.h. m.p.h. 69 m.p.h. m.p.h. m.p.h. Average speed speed No. of Lanes 67 2 쳜 88 Average Jesa JO 4E rpan Station No % of vehicles traveling All vehicles Boun Bound

* One Car, 91 , M.P.H.

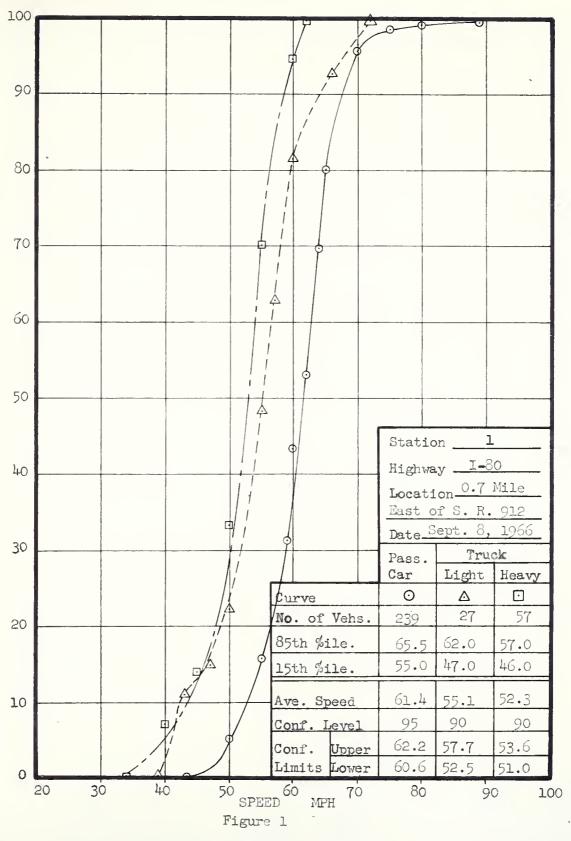


TABLE 16 SPEED DATA

				ರಣ	ent	687	52.7	5.75	0.0	0.0	0.2	2.2	8.6	26.4	57.2	89.8	98.8	100.0		1	t t			-		
				pounds	Present							2							•			•	1	_	•	
	No.	1		2000 000§	Last	864	52.6	5.18	0.0	0.0	0.1	0.8	6.9	25.8	65.9	90.7	99.2	100.0	1	1	1	-	1	1	1	
ıs	Speed Report N		TRUCKS	than pounds	Present	252	56.7	7.03	0.0	0.0	0.0	0.4	6.8	13.9	32.9	64.7	85.7	98.0	99.2	100.0	:	1	1	1	1	
Stations	Neg Speed		-	Less 5000 r	Last	289	54.9	7.24	0.0	0.0	4.0	1.0	6.9	24.6	47.1	73.0	90.3	98.3	7.66	100.0	1	1	-	E 1	1	
Individual	Observation (A11	Present	939	53.8	6.37	0.0	0.0	0.1	1.7	8.1	23.0	50.7	83.1	95.3	99.5	99.8	100.0	1	1	1			
See Inc	്ത	Time		4	Last	1153	53.1	5.83	0.0	0.0	0.2	6.0	6.9	25.5	58.9	86.3	97.0	9.66	6.66	100.0	1	1		1	-	
	Previ			diana	Present	1012	62.4	6.74	0.0	0.0	0.1	0.2	0.7	3.0	11.1	30.1	61.7	4.48	6.96	99.1	100.0	1	1	1		
Location	Last			Non-Indiana	Last	1149	6.09	6.57	0.0	0.0	0.0	0.2	1.6	4.5	16.5	37.7	70.7	92.3	98.8	7.66	100.0	1			1	
77			GER CARS	ane	Present	1316	61.8	6.95	0.0	0.0	0.0	0.1	1.1	3.7	13.2	32.4	65.6	86.9	96.8	0.66	8.66	6.66*	-	1	1	
tems	e e		PASSENGER	Indiana	Last	1705	59.9	7.17	0.0	0.0	0.0	0.2	2.3	8.2	21.5	44.5	74.8	92.0	98.4	36.66	6.66	6.66*		1		•
All Systems	Observation Surface Date			All	Present	2828	62.0	6.88	0.0	0.0	0.0	0.1	6.0	3.5	12.4	31.6	64.2	86.0	6.96	99.1	6.66	-1-	1	1	1	
æy	Type	(1)		1	Last	2854	60.3	6.95	0.0	0.0	0.0	0.2	2.0	6.7	19.5	1,1.8	73.2	92.1	98.6	9.66		6.66	4-	!	;	1
n 1 Thru 12 Highway	This	Time			ORSERVATION	No. of vehicles obs.	rage speed (n	Standard deviation	24 m.p.h.	29 m.p.h.	9 34 m.p.h.	_	trei		888		73	at 69	7/4	79 m.p.h.		**	s obs.	Average speed		Are race and distributed
Station	No. of Lanes					×	A	S			50				9V 86			ar d		%		1	un		pu	

** One Car 90 M.P.H.





Accumulative Speed Curves, Station 1, Interstate Highway

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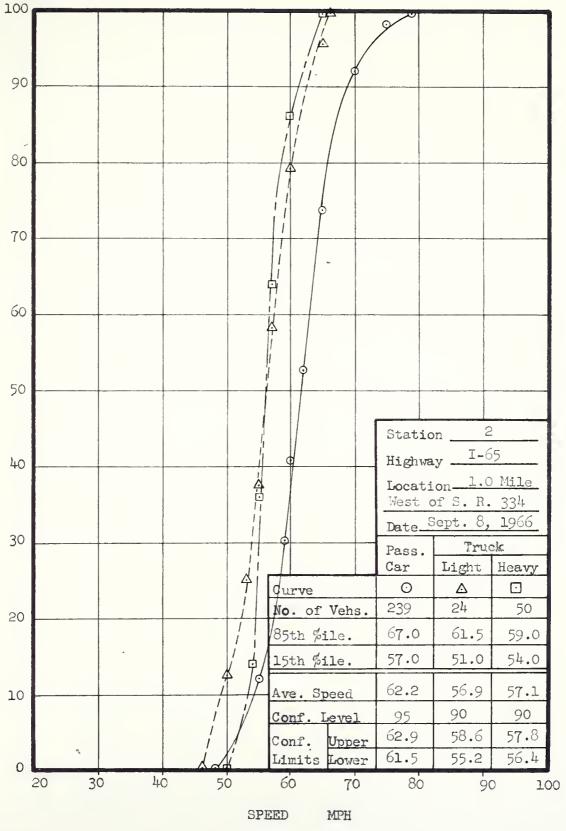


Figure 2

Accumulative Speed Curves, Station 2, Interstate Highway



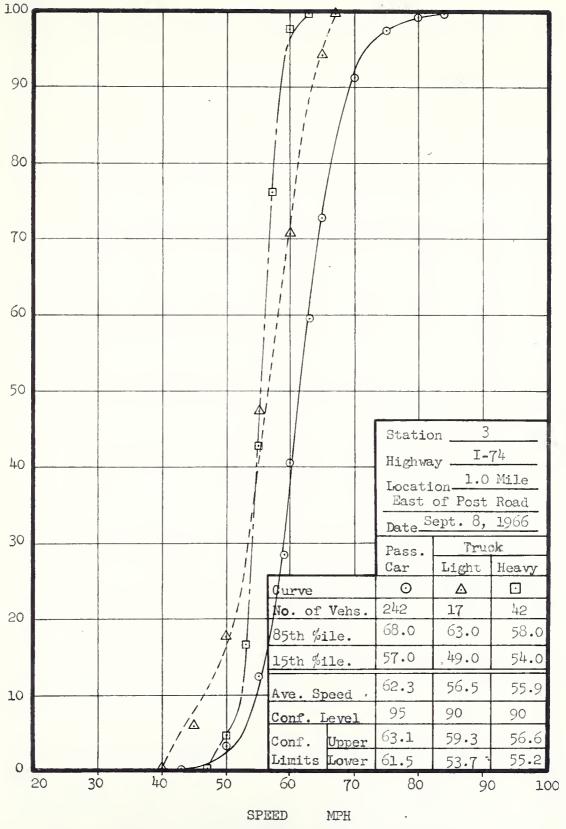


Figure 3
Accumulative Speed Curves,
Station 3, Interstate Highway



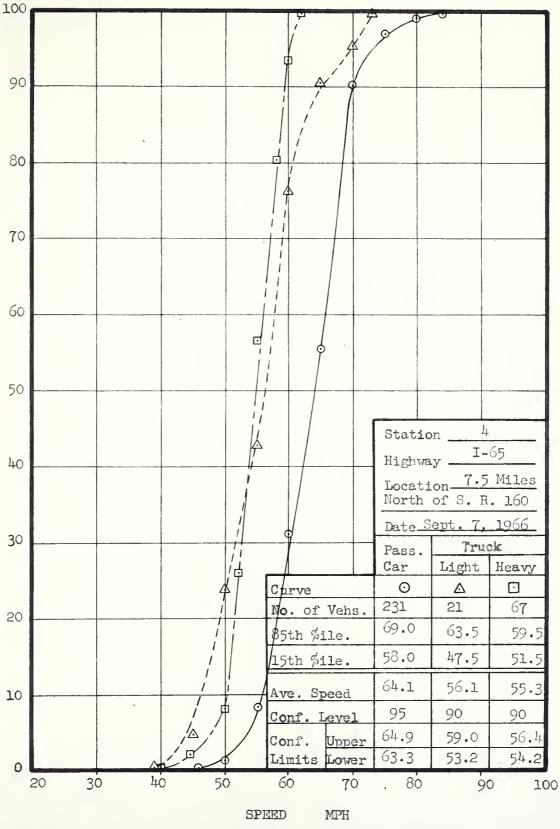


Figure 4

Accumulative Speed Curves, Station 4, Interstate Highway



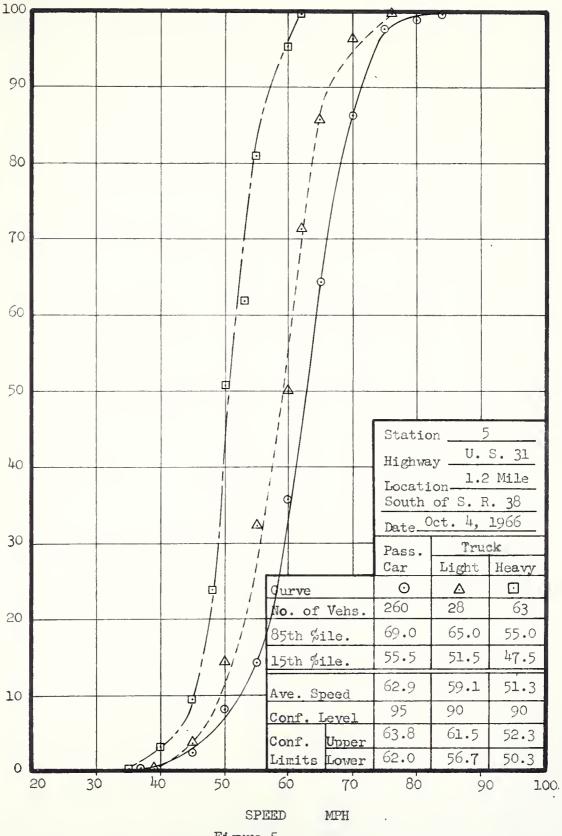


Figure 5

Accumulative Speed Curves, Station 5, 4-Lane Divided Highway



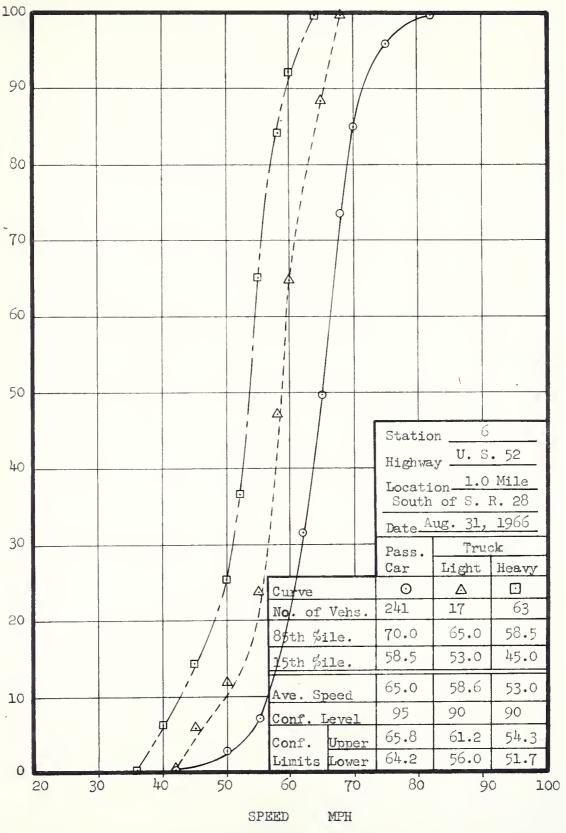


Figure 6
Accumulative Speed Curves,
Station 6, 4-Lane Divided Highway



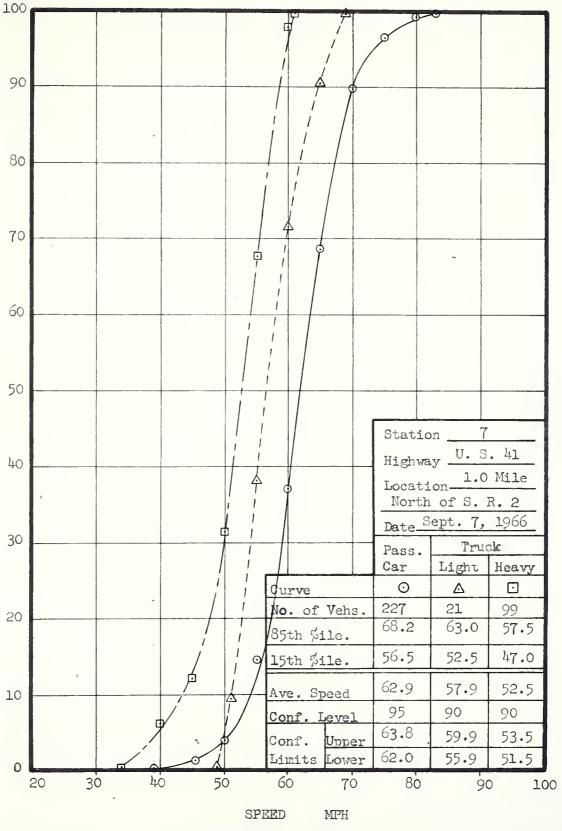


Figure 7

Accumulative Speed Curves,
Station 7, 4-Lane Divided Highway



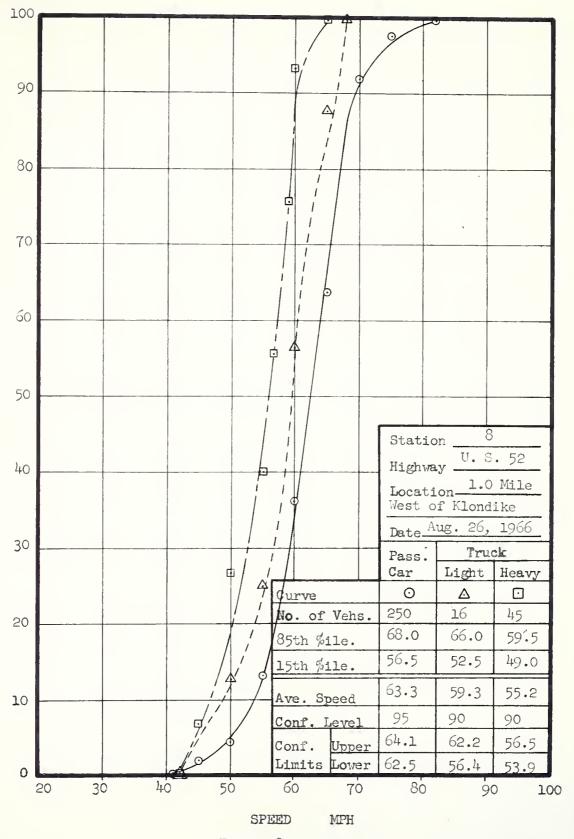


Figure 8

Accumulative Speed Curves, Station 8, 4-Lane Divided Highway



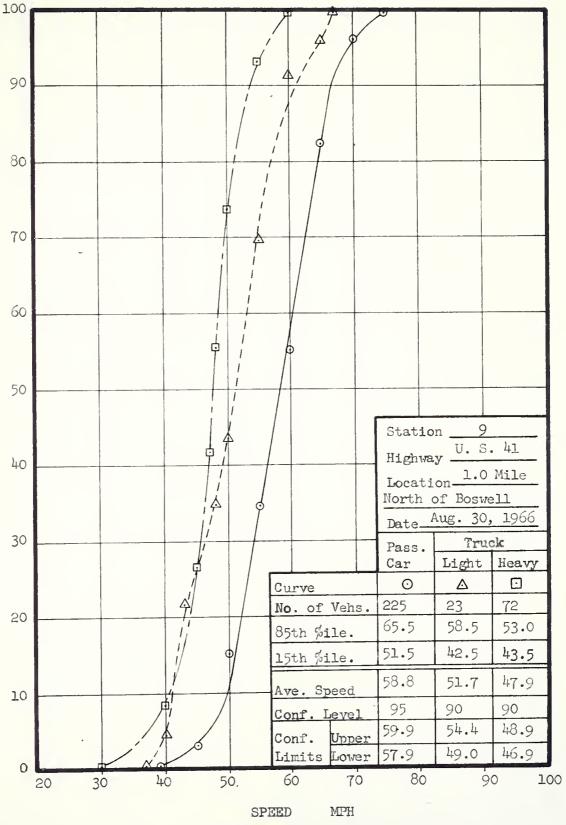


Figure 9
Accumulative Speed Curves,
Station 9, 2-Lane Highway



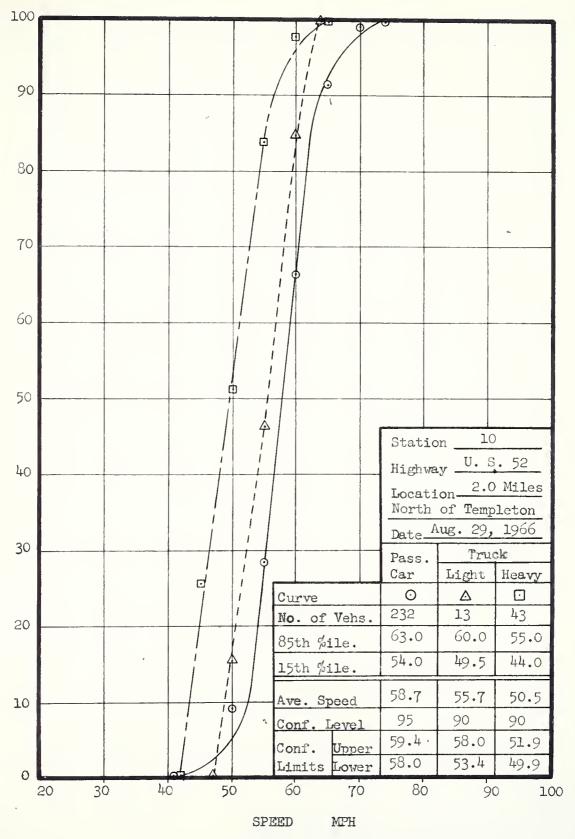
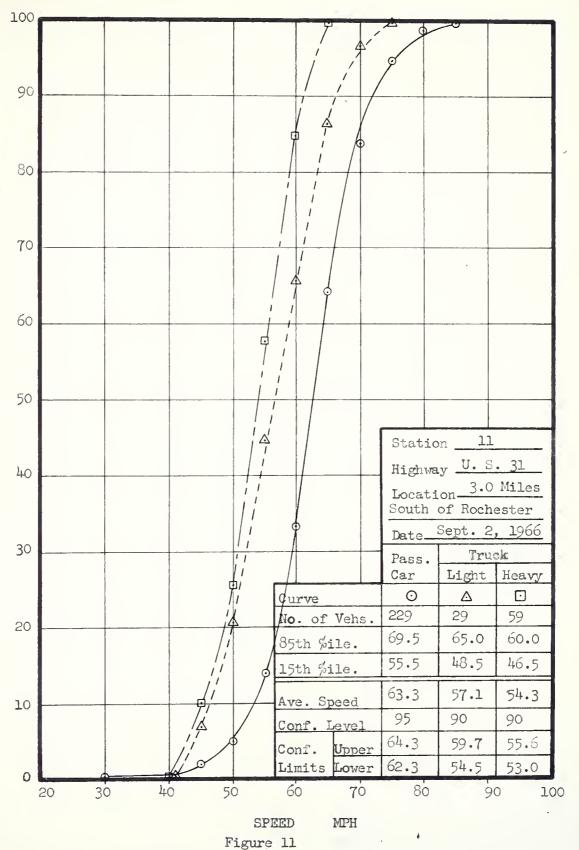


Figure 10

Accumulative Speed Curves, Station 10, 2-Lane Highway





Accumulative Speed Curves, Station 11, 2-Lane Highway



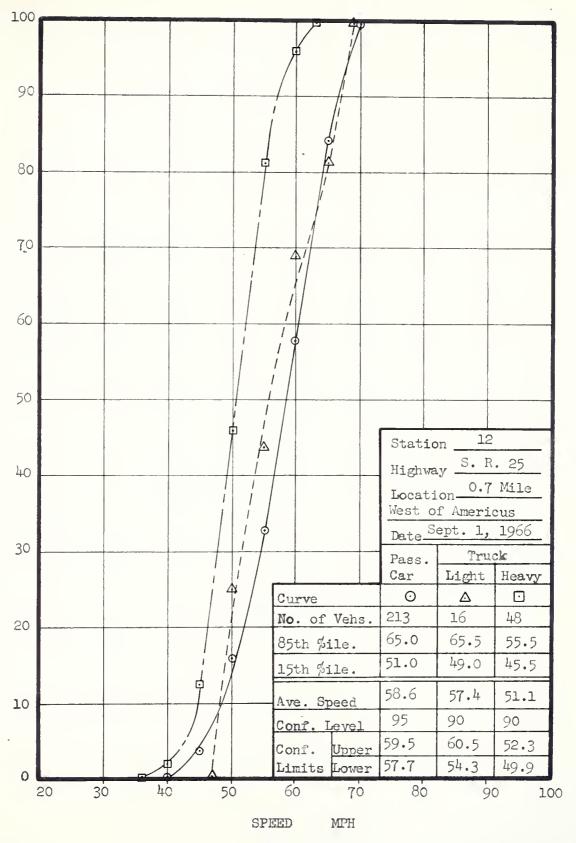


Figure 12
Accumulative Speed Curves,
Station 12, 2-Lane Highway



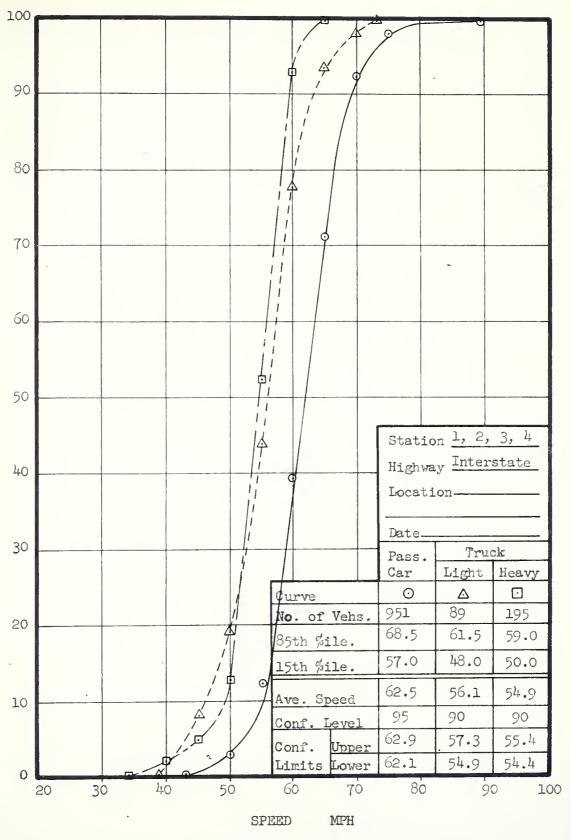


Figure 13

Accumulative Speed Curves,
All Interstate Highways



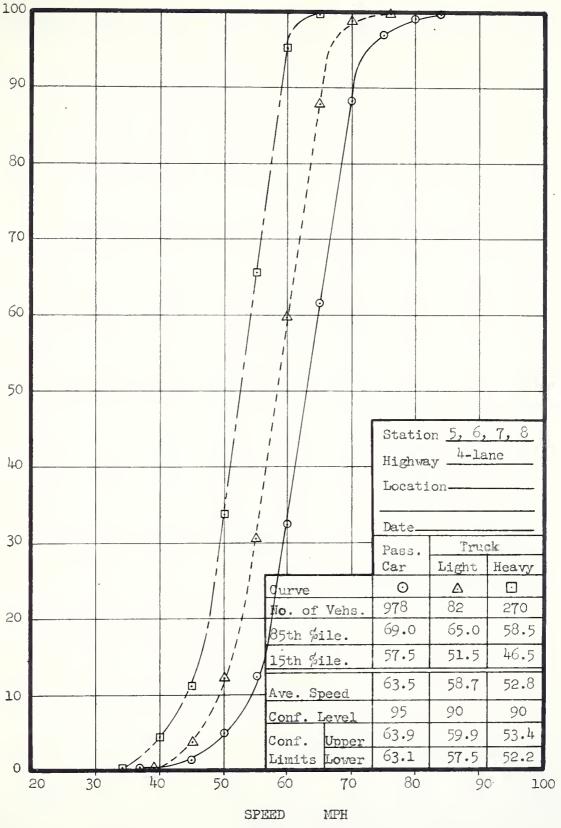


Figure 14
Accumulative Speed Curves
All 4-Lane Divided Highways



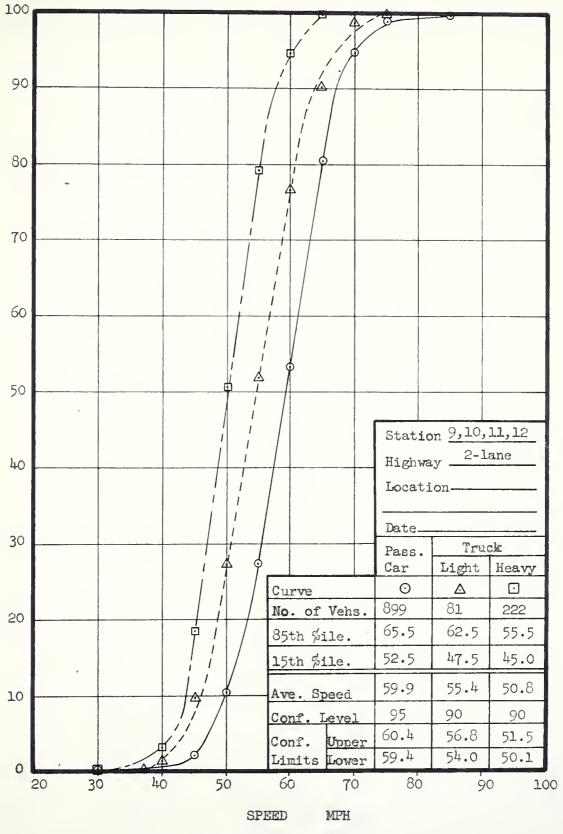


Figure 15
Accumulative Speed Curves,
All 2-Lane Highways



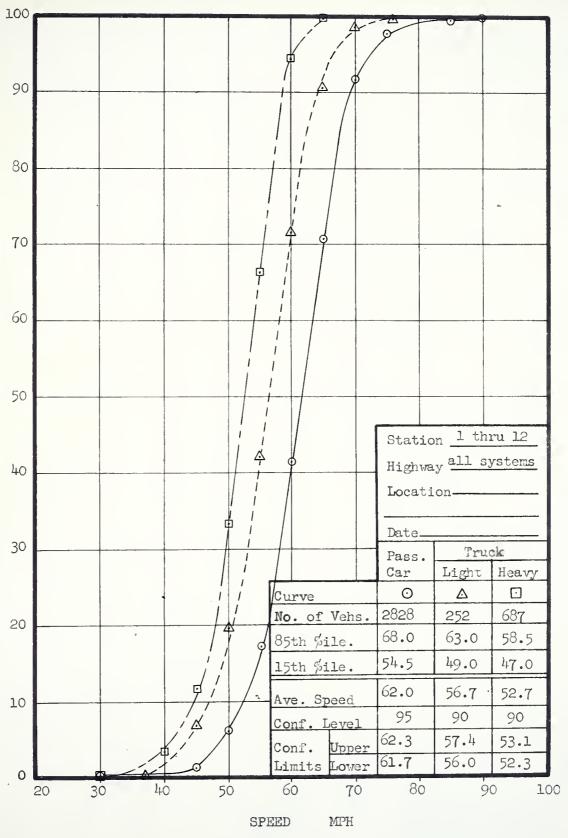


Figure 16
Accumulative Speed Curves,
All Highway Systems



